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L1: Entry 1 of 1 File: DWPI Nov 30, 1987

DERWENT-ACC-NO: 1987-357537
DERWENT-WEEK: 198751

TITLE: Prepn. of penicillin(s) G and V - by aerobic fermentation of penicillium chrysogenum stock

INVENTOR: HOGYE, I; NAGY, J ; POLYA, K ; SERES, P ; SZTARAY, G

PATENT-ASSIGNEE:

ASSIGNEE	CODE
BIOGAL GYOGYSZERGYAR	BIOG

PRIORITY-DATA: 1985HU-0005025 (December 29, 1985)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
HU 43646 T	November 30, 1987		000	

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
HU 43646T	December 29, 1985	1985HU-0005025	

INT-CL (IPC): C12P 37/02

ABSTRACTED-PUB-NO: HU 43646T
BASIC-ABSTRACT:

Penicillins G and V are prepd. by aerobic fermentation of Penicillium chrysogenum stock at 24-25 deg.C with aeration of 0.7-1.3 volume per minute per 1 vol. of fermentation liquor. Phenylactic acid is used for Penicillin G and phenoxyacetic acid for Penicillin V at a min. concn. of 0.05 vol.% each. A pH of 6.2-7 is set by dosing ammonium sulphate, ammonium hydroxide and potassium hydroxide. A nitrogen level of 20 mg/100 ml. min. is maintained. Moist cellular mass is kept at 53% max. by dosing sunflower oil, saccharose soln. and water. Following fermentation period of 90 hours, 5-10 vol.% of the fermentation liquor is removed every 10-20 hours during a total process time of 160-240 hours.

TITLE-TERMS: PREPARATION PENICILLIN AEROBIC FERMENTATION PENICILLIUM CHRYSOGENUM STOCK

DERWENT-CLASS: B02 D16

CPI-CODES: B02-P; D05-C02;

SECONDARY-ACC-NO:
CPI Secondary Accession Numbers: C1987-152961

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L8: Entry 2 of 2 File: USPT Mar 24, 1998

DOCUMENT-IDENTIFIER: US 5731165 A
TITLE: Process for the production of 7-ADCA via expandase activity on penicillin G

INZZ:
Bovenberg; Roelof Ary Lans

INZZ:
Koekman; Bertus Pieter

ABPL:
An overall process for the preparation and recovery of 7-aminodesacetoxycephalosporanic acid (7-ADCA) via enzymatic ring expansion activity on penicillin G, using a Penicillium chrysogenum transformant strain expressing expandase.

BSPR:
.beta.-Lactam antibiotics constitute the most important group of antibiotic compounds, with a long history of clinical use. Among this group, the prominent ones are the penicillins and cephalosporins. These compounds are naturally produced by the filamentous fungi Penicillium chrysogenum and Acremonium chrysogenum, respectively.

BSPR:
As a result of classical strain improvement techniques, the production levels of the antibiotics in Penicillium chrysogenum and Acremonium chrysogenum have increased dramatically over the past decades. With the increasing knowledge of the biosynthetic pathways leading to penicillins and cephalosporins, and the advent of recombinant DNA technology, new tools for the improvement of production strains and for the in vivo derivatization of the compounds have become available.

BSPR:
It has recently been found that the expandase enzyme is capable of expanding penicillins with particular side chains to the corresponding 7-ADCA derivative. This feature of the expandase has been exploited in the technology as disclosed in EP-A-0532341, WO95/04148 and WO95/04149. In these disclosures the conventional chemical conversion of penicillin G to 7-ADCA has been replaced by the in vivo conversion of certain 6-aminopenicillanic acid (6-APA) derivatives in recombinant Penicillium chrysogenum strains containing an expandase gene.

BSPR:
a) transforming a Penicillium chrysogenum strain with an expandase gene, under the transcriptional and translational regulation of fungal expression signals;

DEPR:
The expression cassette used containing the expandase gene under the P. chrysogenum IPNS gene transcriptional and translational regulation signals is described in Crawford et al. (supra). Transformation and culturing conditions